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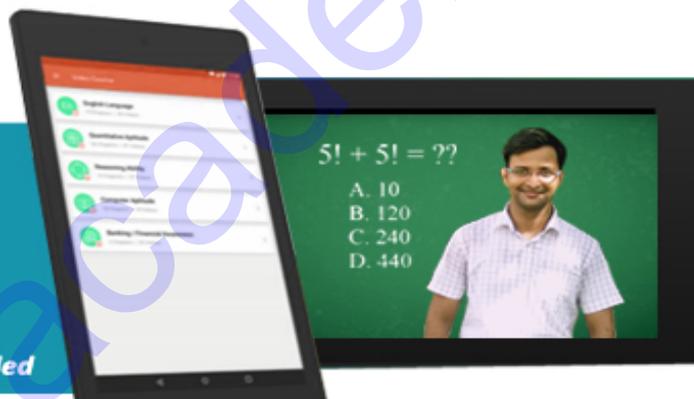
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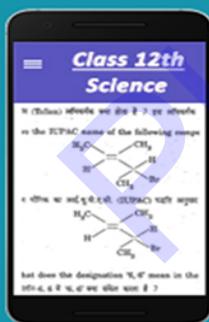


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# CBSE 12th Biology 2013 Unsolved Paper Delhi Board

TIME - 3HR. | QUESTIONS - 30

THE MARKS ARE MENTIONED ON EACH QUESTION

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## SECTION-A

- Q. 1. An anther with malfunctioning tapetum often fails to produce viable male gametophytes. Give any one reason. 1 marks**
- Q. 2. Why sharing of injection needles between two individuals is not recommended?**
- Q. 3. Name the enzyme and state its property that is responsible for and discontinuous replication of the two strands of a DNA molecule. 1 marks**
- Q. 4. Identify the examples of convergent evolution from the following: 1 marks**
- (i) Flippers of penguins and dolphins
  - (ii) Eyes of octopus and mammals
  - (iii) Vertebrate brains
- Q.5. Write the importance of MOET. 1 marks**
- Q. 6. Why is the enzyme cellulase needed for isolating genetic material from plant cells and not from the animal cells? 1 marks**
- Q. 7. Name the type of biodiversity represented by the following: 1 marks**
- (i) 50,000 different strains of rice in India
  - (ii) Estuaries and alpine meadows in India.
- Q. 8. Write the equation that helps in deriving the net primary productivity of an ecosystem. 1 marks**

## SECTION-B

- Q. 9. Geitonogamous flowering plants are genetically autogamous but functionally cross-pollinated. Justify. 2 marks**
- Q. 10. When and where dc chorionic villi appear in humans? State their function. 2 marks**

**Q. 11. In a cross between two tall pea plants some of the offsprings produced were dwarf. Show with the help of Punnett square how this is possible. 2 marks**

**Q. 12. A student on a school trip started sneezing and wheezing soon after reaching the hill station for no explained reasons. But, on return to the plains, the symptoms disappeared. What is such a response called? How does the body produce it? 2 marks**

**Q. 13. Name two commonly used bioreactors. State the importance of using a bioreactor. 2 marks**

**Q. 14. Write the function of adenosine deaminase enzyme. State the cause of ADA deficiency in humans. Mention a possible permanent cure for a ADA deficiency patient. 2 marks**

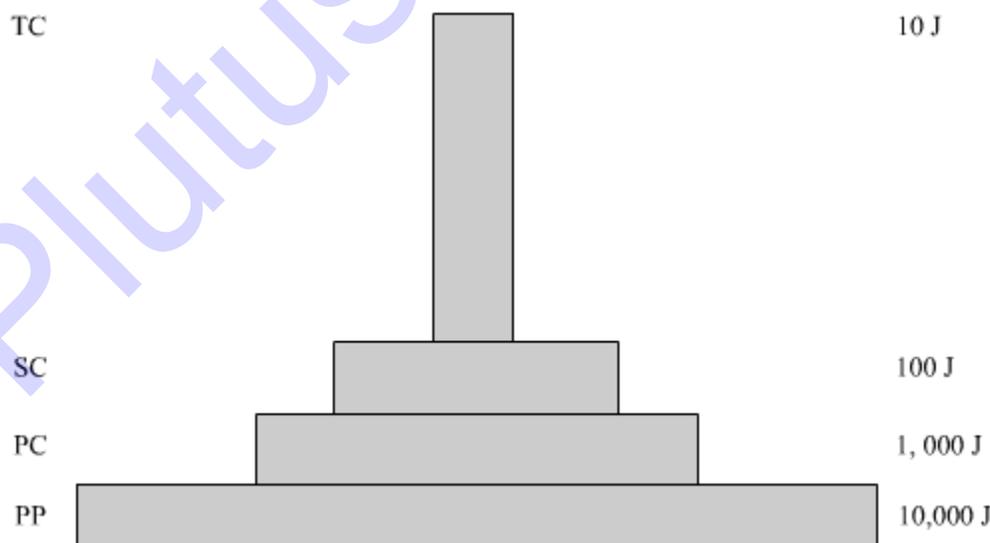
**Q. 15. Expand the following and mention one application of each: 2 marks**  
(i) PCR (ii) ELISA

**OR**

- (a) Mention the difference in the mode of action of exonuclease and endonuclease.
- (b) How does restriction endonuclease function?

**Q. 16. Name any two sources of e-Wastes and write two different ways for their disposal. 2 marks**

**Q. 17. why the pyramid of energy is always upright? Explain. 2 marks**



**Q. 18. Explain why very small animals are rarely found in polar region. 2 marks**

SECTION-C

- Q. 19. Draw a diagram of the microscopic structure of human sperm. Label the following parts in it and write their functions. 3 marks**
- (a) Acrosome
  - (b) Nucleus
  - (c) Middle piece
- Q.20. With the help of any two suitable examples explain the effect of anthropogenic actions on organic evolution. 3 marks**
- Q. 21. (a) Why is human ABO blood group gene considered a good example of multiple alleles?**
- (b) Work out a cross up to F<sub>2</sub> generation only, between a mother with blood group A (Homozygous) and the father with blood group B (Homozygous). Explain the pattern of inheritance exhibited. 3 marks**
- Q.22. Describe the structure of a RNA polynucleotide chain having four different types of nucleotides. 3 marks**
- Q. 23. (a) Why are the fruit juices bought from market clearer as compared to those made at home?**
- (b) Name the bioactive molecules produced by *Trichoderma polysporum* and *Monascus purpureus*. 3 marks**
- Q. 24. Differentiate between inbreeding and outbreeding in cattle' State one advantage and one disadvantage for each one of them. 3 marks**
- Q. 25. (a) why are transgenic animals so called?**
- (b) Explain the role of transgenic animals in (i) Vaccine safety and (ii) Biological products With the help of an example each. 3 marks**
- Q. 26. How have human activities caused desertification? Explain. 3 marks**

OR

**How does algal bloom destroy the quality of a fresh water body? Explain.**

- Q.27. Explain mutualism with the help of any two examples. How is it different from commensalism? 3 marks**

SECTION-D

**Q.28. (a) Draw a diagrammatic sectional view of a mature anatropous ovule and label the following parts in it: 5 marks**

- (i) that develops into seed coat.
  - (ii) that develops into an embryo after fertilization.
  - (iii) that develops into an endosperm in an albuminous seed.
  - (iv) through which the pollen tube gains entry into the embryo sac.
  - (v) that attaches the ovule to the placenta.
- (b) Describe the characteristic features of wind pollinated flowers.

OR

(a) Draw a diagrammatic sectional view of the female reproductive system of human and label the parts

- (i) where the secondary oocytes develop
  - (ii) which helps in collection of ovum after ovulation
  - (iii) where fertilization occurs
  - (iv) where implantation of embryo occurs.
- (b) Explain the role of pituitary and the ovarian hormones in menstrual cycle in human females.

**Q. 29. Describe the asexual and sexual phases of life cycle of plasmodium that causes malaria in humans. 5 marks**

OR

- (a) What is plant breeding? List the two steps the classical plant breeding involves.
- (b) How has the mutation breeding helped in improving crop varieties? Give one example where this technique has helped.
- (c) How has the breeding programme helped in improving the public nutritional health? State two examples in support of your answer.

**Q. 30. A child suffering from Thalassemia is born to a normal couple. But the mother is being blamed by the family for delivering a sick baby. 5 marks**

- (a) What is Thalassemia?
- (b) How would you counsel the family not to blame the mother for delivering a child suffering from this disease? Explain.
- (c) List the values your counselling can propagate in the families.

